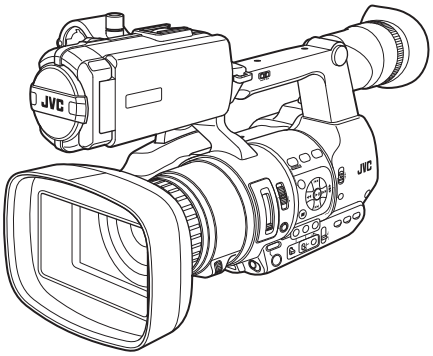
JVC

INSTRUCTIONS (BASIC)

HD MEMORY CARD CAMERA RECORDER

JY-HM360AG



This manual provides a brief explanation on operating this camera recorder. For detailed operation methods and camera settings, please refer to the following Mobile User Guide.

The specifications and appearance of this product are subject to changes for further improvement without prior notice.
Please check the latest version of the INSTRUCTIONS from the following Mobile User Guide. You can also download the PDF from the Mobile User Guide.

Mobile User Guide

When you are outside, you can refer to the instructions from your Android phone or iPhone.

http://manual3.jvckenwood.com/pro/mobile/global/

You can view the Mobile User Guide using the browser on your Android phone or iPhone.

This product does not come with a battery pack.
When using a battery, please purchase the recommended battery pack (SSL-JVC50).

Please read the following before getting started:

Thank you for purchasing this JVC product. Before operating this unit, please read the instructions carefully to ensure the best possible performance.

IM 1.00

B5A-1538-00

Safety Precautions

CAUTION:
The mains plug shall remain readily operable.
- Remove the mains plug immediately if the camera functions abnormally.

WARNING:
The battery pack, the camera with battery installed, and the remote control with battery installed should not be exposed to excessive heat such as direct sunlight, fire or the like.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

NOTES:
- The rating plate and safety caution are on the bottom and/or the back of the main unit.
- The serial number plate is on the bottom of the unit.
- The rating information and safety caution of the AC adapter are on its upper and lower sides.

Caution on Replaceable lithium battery
The battery used in this device may present a fire or chemical burn hazard if mistreated.
Do not recharge, disassemble, heat above 100°C or incinerate.
Replace battery with Panasonic, Sanyo, Sony or Maxell CR2025.
Danger of explosion or risk of fire if the battery is incorrectly replaced.
- Dispose of used battery promptly.
- Keep away from children.
- Do not disassemble and do not dispose of in fire.

When the equipment is installed in a cabinet or on a shelf, make sure that it has sufficient space on all sides to allow for ventilation (10 cm or more on both sides, on top and at the rear).
Do not block the ventilation holes.
(If the ventilation holes are blocked by a newspaper, or cloth etc. the heat may not be able to get out.)
No naked flame sources, such as lighted candles, should be placed on the apparatus.
When discarding batteries, environmental problems must be considered and the local rules or laws governing the disposal of these batteries must be followed strictly.

The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

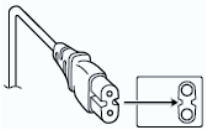
Do not point the lens directly into the sun. This can cause eye injuries, as well as lead to the malfunctioning of internal circuitry. There is also a risk of fire or electric shock.

CAUTION!
The following notes concern possible physical damage to this unit and to the user.
Carrying or holding this unit by the LCD monitor can result in dropping the unit, or in a malfunction.
Do not use a tripod on unsteady or unlevel surfaces. It could tip over, causing serious damage to the unit.

CAUTION!
Connecting cables (Audio/Video, etc.) to this unit and leaving it on top of the TV is not recommended, as tripping on the cables will cause the unit to fall, resulting in damage.

CAUTIONS:
- To prevent shock, do not open the cabinet. No user serviceable parts inside.
  Refer servicing to qualified personnel.
- When you are not using the AC adapter for a long period of time, it is recommended that you disconnect the power cord from AC outlet.

CAUTION:
Where there are strong electromagnetic waves or magnetism, for example near a radio or TV transmitter, transformer, motor, etc., the picture and the sound may be disturbed. In such case, please keep the apparatus away from the sources of the disturbance.

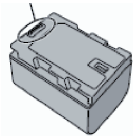
CAUTION:

To avoid electric shock or damage to the unit, first firmly insert the small end of the power cord into the AC Adapter until it is no longer wobbly, and then plug the larger end of the power cord in to an AC outlet.

The plastics packaging bags may cause suffocation when they are covered over the head. Tear them open, and keep them away from the reach of infants and children by ensuring that they are disposed of properly.

If this symbol is shown, it is only valid in the European Union.

Battery Pack (sold separately)
The battery pack is a lithium-ion battery. Before using the battery pack, be sure to read the following cautions:

• To avoid hazards



... **do not** burn.
... **do not** short-circuit the terminals. Keep it away from metallic objects when not in use.
When transporting, carry the battery in a plastic bag.
... **do not** modify or disassemble.
... **do not** expose the battery to temperatures exceeding 60°C, as this may cause the battery to overheat, explode or catch fire.
... use only specified chargers.

• To prevent damage and prolong service life
... do not subject to unnecessary shock.
... charge within the temperature range of 10°C to 30°C. Cooler temperatures require longer charging time, or in some cases stop charging at all. Warmer temperatures prevent complete charging, or in some cases stop charging at all.
... store in a cool, dry place. Extended exposure to high temperatures will increase natural discharge and shorten service life.
... keep a 30% battery level ( ) if the battery pack is not to be used for a long period of time.
... remove from charger or powered unit when not in use, as some machines use current even when switched off.
... do not drop or subject to strong impact.

Contents

Introduction
Safety Precautions 3
Contents 5
Verifying the Accessories 5
Names of Parts 6

Preparations
Adjusting the Grip Belt 9
Opening/Closing the Lens Cover 9
Attaching/Detaching the Hood 9
Using a Battery Pack (sold separately) 10
Configuring the Initial Settings 11
Usable Cards 13
Estimated Recordable Time of SD Cards 13
Inserting an SD Card 13

Shooting
Basic Shooting Procedures 16
Using Scene Select 17
Miscellaneous Functions for Shooting and Recording Methods 19

Playback
Playing Recorded Clips 20

Connecting External Devices
Connecting External Monitor 21
Loading Clips to the PC 22

Others
Menu Screen Hierarchical Chart 23
Basic Operations in Menu Screen 24
Display Screen 25
Status Screen 30
Troubleshooting 31
Precautions for Proper Use 32
Specifications 36
Software License Agreement 38
Important Notice concerning the Software 39

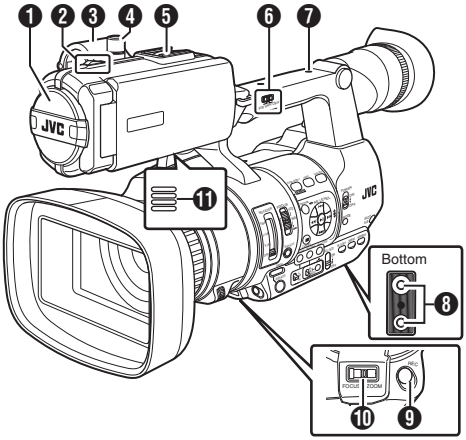
Content of this manual
Symbols used **Caution** : Describes precautions concerning the operation of this product. **Memo** : Describes reference information, such as functions and usage restrictions of this product.

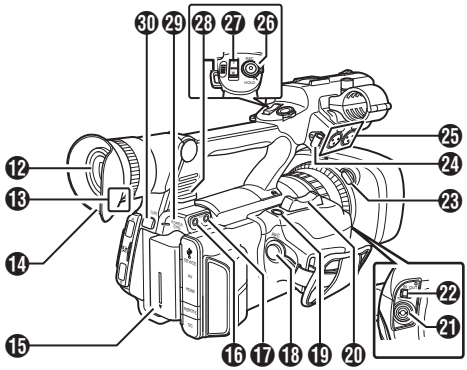
Verifying the Accessories

Verify that the following accessories are included with the camera recorder before using.

Accessories	
INSTRUCTIONS (BASIC)	1
AC Adapter	1
Power Cord	1

Names of Parts





❶ Built-in Microphone
❷ Tally Lamp
❸ Microphone Holder
❹ Microphone Holder Lock Knob
❺ Shoe
❻ [FIX/VAR/OFF] Zoom Speed Switch
❼ Accessory Mounting Screw Hole
❽ Tripod Mounting Hole
❾ [REC] Record Trigger Button

Memo :
- This button is interlocked with the [REC] button ⓲ on the grip and the [REC/HOLD] button ㉖ at the top of the handle.

❿ [FOCUS/ZOOM] Operation Switch
⓫ Monitor Speaker
⓬ Viewfinder
⓭ Visibility Adjustment Lever
⓮ Eyecup
⓯ Battery (sold separately)
⓰ [🎧] Headphone Jack (Φ3.5 mm)
⓱ [AUX] AUX Input Terminal (Φ3.5 mm)
⓲ [REC] Record Trigger Button

Memo :
- This button is interlocked with the [REC] button ❾ at the bottom of the lens and the [REC/HOLD] button ㉖ at the top of the handle.

⓳ [C.REVIEW/7] Clip Review/User 7 Button
⓴ Zoom Lever at the Grip
㉑ [TC] TC Input/Output Terminal
㉒ [IN/OUT] TC IN/OUT Selection Switch
㉓ Hood Release Button
㉔ External Microphone Cable Clamp
㉕ [INPUT1/INPUT2] Audio Input Terminal 1, 2 (XLR 3-pin x 2)
㉖ [REC/HOLD] Record Trigger Button/Lock Switch

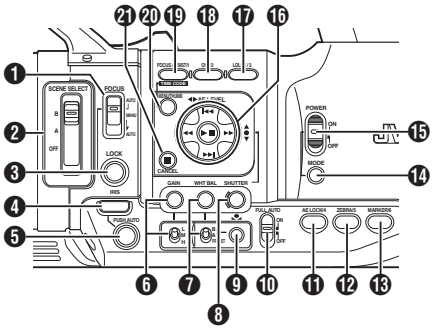
Memo :
- This button is interlocked with the [REC] button ⓲ on the grip and the [REC] button ❾ at the bottom of the lens.
- The [REC] button ⓲ on the grip and the [REC] button ❾ at the bottom of the lens will not be locked.

㉗ Zoom lever at the Handle
㉘ Shoulder Belt Mount (x2)

Caution :
- Be sure to use a shoulder belt with the strength to withstand the weight of this camera recorder.
- If the shoulder belt is not properly attached, the camera recorder may fall and cause injuries. Check the instruction manual provided with the shoulder belt before using.

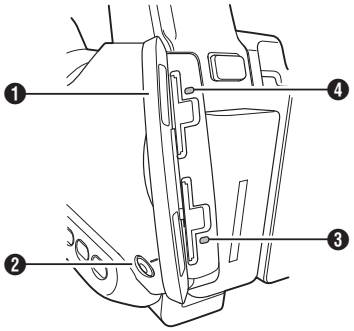
㉙ [POWER/CHG] Power/Charging Display Lamp
㉚ [BATT. RELEASE] Battery Lock Release Button

Side Control Panel



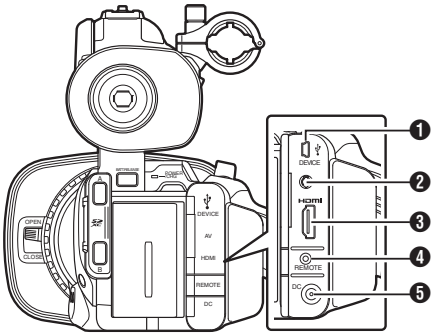
❶ [FOCUS AUTO / MANU / ➡AUTO] Focus Switch
❷ [SCENE SELECT] Scene Selection Switch
❸ [LOCK] Auto Focus Lock Button
❹ [IRIS] Iris Auto/Manual Selection Button
❺ [PUSH AUTO] Iris Push Auto Button
❻ [GAIN] Gain Auto/Manual Selection Button / [L/M/H] Sensitivity Selection Switch
❼ [WHT BAL] White Balance Auto/Manual Selection Button / [B/A/PRESET] Selection Switch
❽ [SHUTTER] Shutter Speed Auto/Manual Selection Button
❾ [●] One Push Auto White Balance Button
❿ [FULL AUTO ON/OFF] Full Auto Switch
For switching the Full Auto mode to ON/OFF. Full Auto mode adjusts the Iris, Gain, Shutter and White Balance automatically.
⓫ [AE LOCK/4] AE Lock/User 4 Button
⓬ [ZEBRA/5] Zebra/User 5 Button
⓭ [MARKER/6] Marker/User 6 Button
⓮ [MODE] Camera/Media Mode Selection Button
⓯ [POWER ON/OFF] Lock Power ON/OFF Switch
⓰ Cross-Shaped Button (▲▼◀▶)/Set Button (●)
⓱ [LOLUX/3] Low-light Shooting/User 3 Button
⓲ [OIS/2] Optical Image Stabilizer/User 2 Button
⓳ [FOCUS ASSIST/1] Focus Assist/User 1 Button
⓴ [MENU/THUMB] Menu/Thumbnail Button
㉑ [CANCEL] Cancel Button

SD Slot



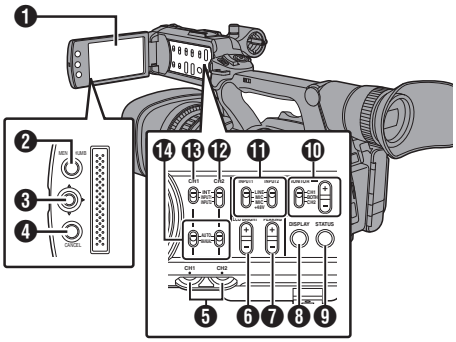
❶ SD Card Cover
❷ [SLOT A/B] Card Slot Selection Button
❸ Card Slot B Status Indicator
❹ Card Slot A Status Indicator

Rear Terminal



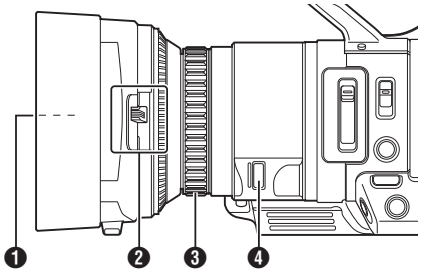
❶ [DEVICE] USB Mini Terminal
❷ [AV] AV Output Terminal
❸ [HDMI] HDMI Output Terminal
❹ [REMOTE] Remote Terminal
❺ [DC] DC Input Terminal

LCD Monitor



❶ LCD Monitor
❷ [MENU/THUMB] Menu/Thumbnail Button
❸ LCD Cross-Shaped Button (▲▼◀▶)/Set Button (●)
❹ [CANCEL] Cancel Button
❺ [CH1/CH2] CH1/CH2 Recording Level Adjustment Knob
❻ [LCD BRIGHT +/-] LCD Display Brightness Adjustment Button
❼ [PEAKING +/-] LCD/VF Contour Adjustment Button
❽ [DISPLAY] Display Button
❾ [STATUS] Status Screen Display Button
❿ [MONITOR]/[+/-] Audio Monitor Selection Switch/Volume Adjustment Button
⓫ [INPUT1/INPUT2] Audio Input Signal Selection Switch
⓬ [CH2] CH2 Audio Input Signal Selection Switch
⓭ [CH1] CH1 Audio Input Signal Selection Switch
⓮ [CH1/CH2 AUTO/MANUAL] CH1/CH2 Audio Recording Mode Switch

Lens Section



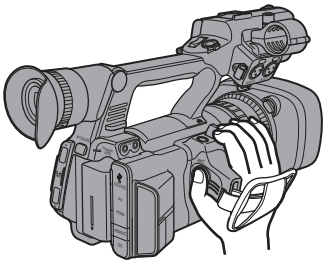
❶ Filter Built-In Screw
- Installable filter types: ϕ46mmP0.75

Memo :
- Remove the lens hood when installing the filter.

❷ Lens Cover Open/Close Switch
❸ Focus/Zoom Ring
❹ Iris Dial

Adjusting the Grip Belt

Open the pad and adjust the position of the grip belt accordingly.

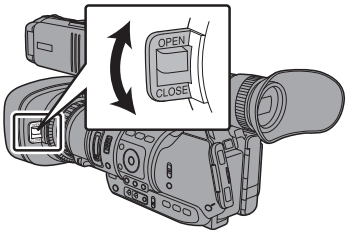


Caution :

- If the grip is loose, the camera recorder may fall off resulting in injuries or malfunction.

Opening/Closing the Lens Cover

Use the lens cover open/close switch to open or close the lens cover.
Before shooting, open the lens cover.
When this camera recorder is not in use, close the lens cover to protect the lens.



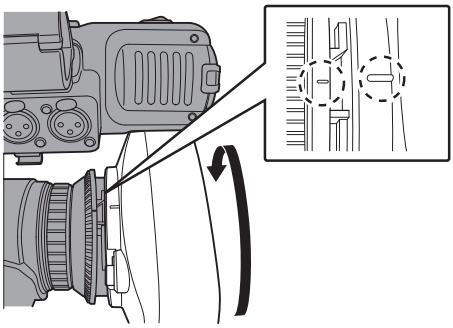
Caution :

- Do not press against the lens cover with force. Doing so may damage the lens or the cover.

Attaching/Detaching the Hood

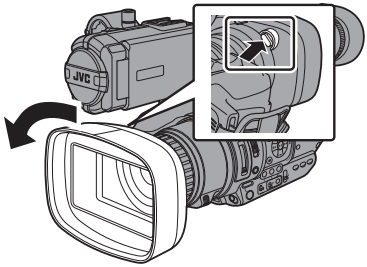
Attaching the Hood

Align the markings on the camera recorder and hood; turn the hood in the direction of the arrow until it is locked.



Detaching the Hood

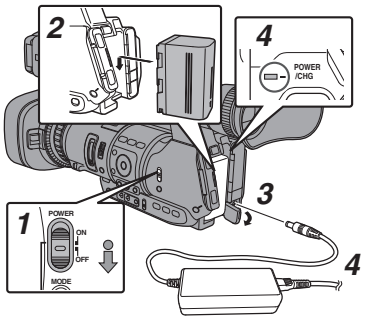
- Remove the hood when attaching a filter, teleconverter or wide converter to the front of the lens.
- While pressing the hood release button, turn the hood in the direction of the arrow (anti-clockwise) to remove it.



Using a Battery Pack (sold separately)

Charging the Battery

Charge the battery immediately after purchase or when the battery power is running low.



1 **Hold down the lock button (blue) at the center of the [POWER ON/OFF] switch to set to "OFF".**

2 **Attach the battery.**
Slide it in until you hear a click.

3 **Connect the supplied AC adapter to the [DC] terminal.**
Open the cover of the [DC] terminal and connect as shown in the diagram.

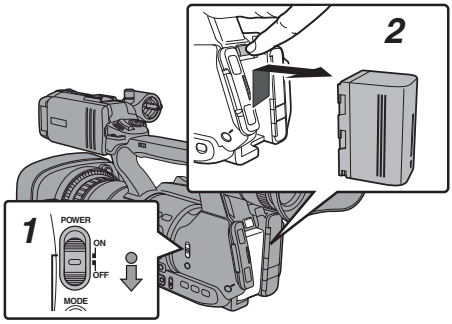
4 **Connect the AC adapter to a power outlet.**
- The [POWER/CHG] lamp blinks during charging and will go out after charging is complete.
- Remove the AC adapter after charging is complete.

Memo :
- Blinking of the [POWER/CHG] lamp during charging indicates the charge level.

[POWER/CHG] Lamp	Charge Level
Orange blinking (4 times per second)	Less than 25 %
Orange blinking (3 times per second)	Less than 50 %
Orange blinking (2 times per second)	Less than 75 %
Orange blinking (1 time per second)	Less than 100 %
Light goes out	Fully charged

- You can charge the battery even when operating the camera recorder using the AC adapter.

Removing the Battery



1 **Hold down the lock button (blue) at the center of the [POWER ON/OFF] switch to set to "OFF".**

2 **While pressing and holding the [BATT. RELEASE] button, push up and remove the battery in the direction of the arrow.**

Caution :
- Do not remove the battery when the [POWER ON/OFF] switch is "ON".
- Do not insert or remove the DC cable when the battery is in use.
- Leaving the camera recorder unused with the battery inside will deplete the battery power even if you set the [POWER ON/OFF] switch to "OFF". Remove the battery if you are not using the camera recorder.

Estimated Charging and Continuous Operating Times

■ Charging time
Approx. 4 hrs (SSL-JVC50)

* When the [POWER ON/OFF] switch is set to "OFF"

Memo :
- If you charge the battery immediately after using while the battery is still warm, it may not be fully charged.
- For details, refer to the "INSTRUCTIONS" of the battery.

■ Continuous operating time
Approx. 6 hrs (SSL-JVC50)

Memo :

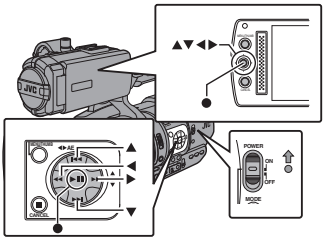
- Actual operating times may differ depending on the age of the battery, charging condition, and operating environment.
- Operating time is shortened in cold environment.
- The operating time may shorten when power zoom is used, accessories are connected, or when the LCD monitor is frequently used.
- For purchase of spare batteries and battery charger, please contact the local dealers in your area.

Precautions for Batteries

- Store the battery in a cool and dry place when not in use. Do not expose the battery to high temperatures (such as in a car under direct sunlight). Failure to do so not only shortens the battery life but also damages the battery.
- If the operating time shortens drastically even after charging, the battery may be reaching the end of its life. Replace the battery with a new one.

Configuring the Initial Settings

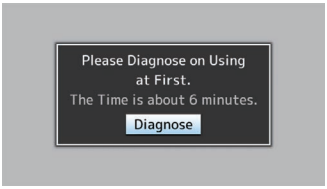
When the power is first turned on, the Initial Setting screen for performing the initial settings in the camera recorder appears.
Set the date/time of the built-in clock in the [Initial Setting] screen.
All operations are disabled until initial settings are complete.



Memo :

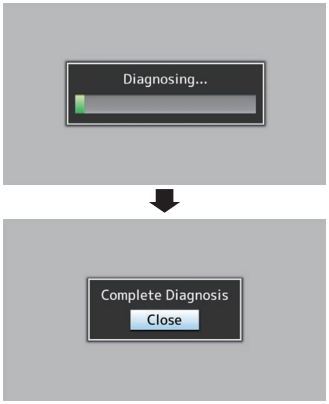
- It is recommended to use the AC adapter as the power supply.
- Be sure to close the lens cover.

1 **Hold down the lock button (blue) at the center of the [POWER ON/OFF] switch to set to "ON".**
The Initial Setting screen appears.



2 Ensure that the lens cover is closed, and press the Set button (●).

- Self-diagnosis starts.
- A progress bar appears, and “Complete Diagnosis” appears when the diagnosis is complete.

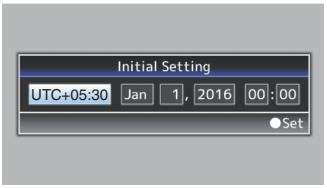


Memo :

- It takes about 6 minutes to complete the diagnosis. During the diagnosis, do not operate or turn off the camera recorder.

3 Press the Set button (●) after confirming the exit screen.

The [Initial Setting] screen appears.



Memo :

- The [Initial Setting] screen appears when the power is turned on for the first time and when the power is turned on after the built-in battery is fully discharged.
- The configured date/time data is saved in the built-in rechargeable battery even if the power is turned off.

4 Set the time zone and date/time.

① Move the cursor with the cross-shaped button (◀▶) and select the setting item.

② Change the values with the cross-shaped button (▲▼).

5 Press the Set button (●) after setting is complete.

The clock is set to 0 seconds of the input date/time.

Memo :

- The configured date/time data can be displayed on the LCD monitor and viewfinder and be recorded to the SD card.
- The value of the year can be set in the range of “2000” to “2099”.

Usable Cards

Use a Class 6/10 SD card.

Memo :

- Depending on the recording format, SD card with Class 4 or higher performance can also be used.
- To use an SDHC card, set [4GB File Spanning(SDXC)] to “On”.

Caution :

- Using cards other than those from Panasonic, TOSHIBA or SanDisk may result in recording failure or data loss.

Estimated Recordable Time of SD Cards

The estimated recordable time is only a guide. Differences may occur depending on the SD card in use and the battery condition.

	QuickTime/MP4	
	MPEG2/HD	
	SP	HQ
	1080i	720p/1080i
4 GB	17	12
8 GB	35	25
16 GB	70	50
32 GB	140	100
64 GB (SDXC)	280	200
128 GB (SDXC)	560	400

(Unit: minute)

	AVCHD				
	HQ	HQ	SP	LP	EP
	1080p	1080i			
4 GB	16	19	25	46	82
8 GB	33	39	50	95	168
16 GB	67	78	100	190	336
32 GB	135	156	200	380	672
64 GB (SDXC)	270	312	400	760	1344
128 GB (SDXC)	540	624	800	1520	2688

(Unit: minute)

	QuickTime		
	H.264/HD		H.264/SD
	XHQ	UHQ	-
	1080i/1080p	1080i	576i
4 GB	9	12	47
8 GB	18	25	95
16 GB	36	50	190
32 GB	72	100	380
64 GB (SDXC)	145	200	760
128 GB (SDXC)	290	400	1520

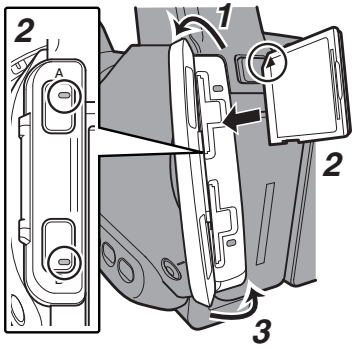
(Unit: minute)

Memo :

- If the SD card contains files recorded by devices other than this camera recorder or files that are saved from a PC, the recordable time may be shorter or data may not be properly recorded.
- The number of clips that can be recorded to one SD card on this camera recorder for each file format is restricted.
  Up to 600 clips can be recorded for the “QuickTime” file format and 4000 clips for the “AVCHD” file format. When the maximum number of clips is reached, the remaining space is displayed as “0 min” regardless of the estimated recordable time, and no further recording can be made.

Inserting an SD Card

This camera recorder comes with two card slots (Slot A and B) for video/audio recording and playback.



1 **Open the SD card cover.**

2 **Insert an SD card with the notched corner pointing up.**
The status indicator of the card slot to which the card was inserted lights up in red.

3 **Close the SD card cover.**

Formatting (Initializing) SD Cards

When the following cards are inserted, [!FORMAT] appears at the remaining media display area. Format the card using the camera recorder menu.

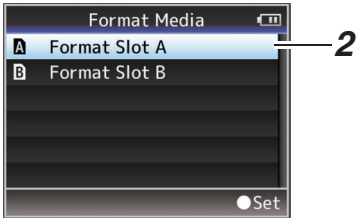
- Unformatted SD cards
- SD cards formatted under different specifications

Caution :

- Be sure to format the SD card on this camera recorder. SD cards formatted on a PC and other peripheral equipment cannot be used on this camera recorder.
- [!RESTORE] appears at the remaining media display area when an SD card that requires restoring is inserted.

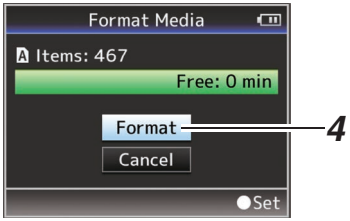
1 Select [System] ➡ [Media] ➡ [Format Media].

2 Select the slot of the SD card to be formatted and press the Set button (●).

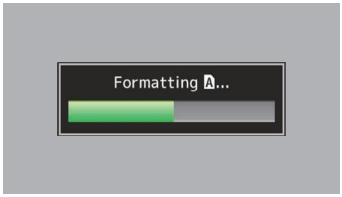


3 The status of the selected SD card appears.

4 Select [Format] and press the Set button (●).



5 Formatting starts.



6 Formatting is complete.

When formatting is complete, “Complete” appears and the camera recorder returns to the [Format Media] screen.

Memo :

- During formatting, menu operation is unavailable but you can start recording. However, this is only available when a recordable SD card is inserted in the other slot.
- Formatting cannot be performed in the following cases.
  - Recording is in progress on the SD card to be formatted.
  - SD card is not inserted.
  - Write-protect switch of the SD card is set (is displayed).

Caution :

- If you format the SD card, all data recorded on the card, including video data and setup files, will be deleted.

Clips Recorded to SD Cards

Folders in the SD Card

Images recorded are sorted into the respective folders according to the menu settings below.

* Select which folder to record to from the menu.

System	Format	Record Folder
HD	QuickTime (MPEG2)	DCIM or PRIVATE/JVC/CQAV*
	MP4(MPEG2)	PRIVATE/JVC/BPAV
	AVCHD	PRIVATE/AVCHD
HD/SD	QuickTime(H.264)	DCIM or PRIVATE/JVC/CQAVC*

Memo :

- By formatting (initializing) the SD card from the [Format Media] menu on the camera recorder, folders required for recording in the current [System] settings will be generated.
- When the [System] settings and [QuickTime(MPEG2)] settings are changed, folders required for recording in those settings will be automatically generated.

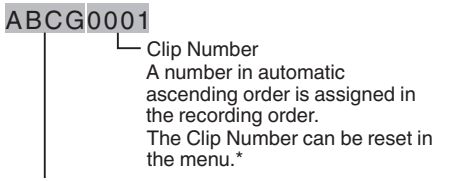
Caution :

- When a clip inside the folder is moved or deleted using the Explorer (Windows) or Finder (Mac), recording to the SD card may fail if formatting (initializing) of the card is not performed.

Clip (Recorded Data) and Clip Name

- When recording is stopped, the images, audio and accompanying data which are recorded from start to stop are recorded as one “clip” on the SD card.
- An 8-character clip name is automatically generated for the recorded clip. (“Clip Name Prefix” + “Clip Number”)
- When [Main Menu] ➡ [System] ➡ [Record Set] ➡ [Record Format] ➡ [Format] is set to “AVCHD”, the clip name generated consists of only the Clip Number (5-digit number).

Example: In the case of QuickTime/MP4


ABCG0001
Clip Number
A number in automatic ascending order is assigned in the recording order.
The Clip Number can be reset in the menu.*
Clip Name Prefix (any four alphanumeric characters)
This is set to “xxxG” (“xxx” denotes the last 3 digits of the serial number) by default.

* [Clip Set] ➡ [Reset Clip Number]

Memo :

- Before recording starts, you can set any characters for the clip name prefix by using [Main Menu] ➡ [System] ➡ [Record Set] ➡ [Clip Set] ➡ [Clip Name Prefix].
- Changes cannot be made after recording.

Recorded Clips

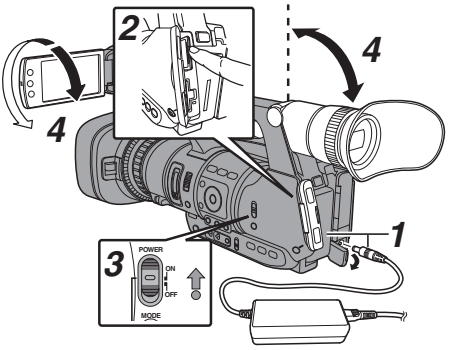
- The recorded materials may be split into several files but they can be played back continuously on the camera recorder.
- Clips may be recorded across the two SD cards in card slots A and B depending on the recording time of the clip.

Caution :

- A clip recorded across several cards cannot be played back continuously. Continuous playback is only possible when the recording is made on one card.

Basic Shooting Procedures

Preparations



1 **Supply battery or AC adapter power to the camera recorder.**

2 **Insert an SD card.**

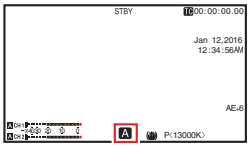
3 **Turn on the power of the camera recorder.**
Hold down the lock button (blue) at the center of the [POWER ON/OFF] switch to set to “ON”. The camera recorder starts up in Camera mode and is ready for recording.

4 **Adjust the angle of the LCD monitor and viewfinder.**

5 **Configure [System], [Format], [Resolution] and [Frame & Bit Rate] in [Main Menu] ➡ [System] ➡ [Record Set] ➡ [Record Format].**
- You can select the system definition (HD or SD), file format for recording/playback and the record format for video images on this camera recorder.
- Press the [MENU/THUMB] button on the LCD monitor to display the menu screen on the LCD monitor and viewfinder.
- The following setting values are the factory defaults.
  [System]: HD
  [Format]: QuickTime(MPEG2)
  [Resolution]: 1920x1080
  [Frame & Bit Rate]: 50i(HQ)

Shooting

1 **Configure the video and audio input settings.**
- Set the [FULL AUTO ON/OFF] switch to “ON” to enter Full Auto mode. This mode adjusts the Iris, Gain, Shutter and White Balance automatically.
- The audio recording level is also set to Auto, and audio from the built-in microphone is recorded in the Full Auto mode.
- The A icon appears at the lower center area of the LCD in the Full Auto mode.



Memo :
- To set each individual video setting item automatically or manually, and to carry out the audio input settings and the audio recording level adjustment, select the item from the menu and specify the setting individually.

2 **Press the [REC] button to start recording to the SD card.**
This camera recorder has three [REC] buttons. Any of the [REC] buttons can be used to start/stop recording by default.
The tally lamp lights up in red during recording.
- Zoom Operation
- Adjusting the Focus

Memo :
- If both the slots are loaded with recordable cards in the factory default, pressing the [REC] button starts recording only to the media in the selected slot.
  When [Main Menu] ➡ [System] ➡ [Record Set] ➡ [Slot Mode] is set to “Dual”, recording can be performed simultaneously to the cards in both the slots.
- The tally lamp can be turned off in [System] ➡ [Tally Lamp].

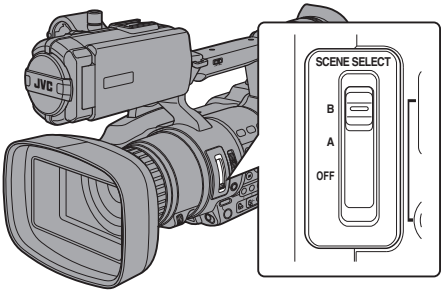
3 **Check the most recently captured images.**
- Press the [C.REVIEW/7] button on the lens to activate the Clip Review function. The most recently captured images are played back on the LCD monitor and viewfinder screen.
- After playback, the camera recorder returns to standby mode (STBY).

Memo :
- [Clip Review] is assigned to [C.REVIEW/7] button in factory default.
- [Clip Review] can also be assigned to other user buttons.

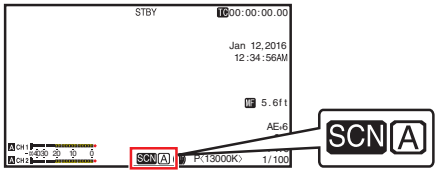
Using Scene Select

Changing Scene Select

Use the [SCENE SELECT] switch to change camera settings easily and promptly according to specific scenarios.
Set the [SCENE SELECT] switch to “A” or “B” to enter the Scene Select mode. This allows the camera recorder to enter a preset shooting mode.



When the camera recorder is in the Scene Select mode, “SCN A” or “SCN B” appears on the screen.

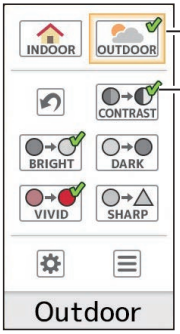


Setting Scene Select

You can set different shooting modes for “A” and “B” of the [SCENE SELECT] switch.

1 **Set the [SCENE SELECT] switch to “A” or “B”.**
The camera recorder switches to the desired set position (“A” or “B”).

2 **Press the [MENU/THUMB] button.**
The Scene Select setting menu appears.



Cursor (Orange Frame)
Check Mark

3 **Select a shooting mode.**
- Use the cross-shaped button (▲▼◀▶) to move the orange cursor. Select icons for the shooting mode and press the Set button (●).
- Icons being selected are indicated by a check mark (✓). Press the Set button again to remove the check mark.
- When a check mark appears beside an icon, select ✲ (Adjust) and press the Set button to display the Adjust screen. You can adjust the selected shooting mode.

4 **Press the [MENU/THUMB] button.**
Returns to the normal screen.

Memo :
- The Scene Select mode operates regardless of the [FULL AUTO ON/OFF] switch setting. However, Full Auto mode will be “ON”.
- The status of the selected shooting mode can be saved in both “A” and “B” of the [SCENE SELECT] switch.
- If a check mark does not appear for “Bright”, “Dark”, “Hi Contrast”, “Vivid” or “Sharp”, the Adjust screen will not appear.
- When the Scene Select setting menu is displayed, changing the [SCENE SELECT] switch to “OFF” will close the Scene Select setting menu and return to the normal screen.
- When the [SCENE SELECT] switch is set to “A” or “B”, items in [Main Menu] ➡ [Camera Function] cannot be set.
- Settings for [AE Level] are disabled during the Scene Select mode.
- Settings for [Camera Process] are disabled during the Scene Select mode.

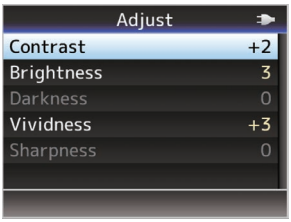
List of Shooting Modes (Icon)

Icon	Description
INDOOR Indoor (*1)	Select for indoor shooting.
OUTDOOR Outdoor (*1)	Select for outdoor shooting.
(Reset)	Returns all current setting values for the [SCENE SELECT] switch (“A” or “B”) to default.
CONTRAST Hi Contrast	Select to add contrast and differentiate brightness and darkness.
BRIGHT Bright (*2)	Select when the background is bright and the subject appears dark against the backlight. Adjust when the subject becomes darker than necessary in Auto Iris mode.
DARK Dark (*2)	Select when the background is dark and the subject is too bright. Adjust when the subject becomes brighter than necessary in Auto Iris mode.
VIVID Vivid	Select for shooting vivid and colorful subjects.
SHARP Sharp	Select to emphasize the contour of the subject.
(Adjust)	Displays the adjustment screen. Details for each setting value can be configured.
(Menu)	Displays the menu screen.

*1 “Indoor” and “Outdoor” cannot be selected at the same time.

*2 “Bright” and “Dark” cannot be selected at the same time.

Detailed Settings for Shooting Mode



1 Adjust the setting values.

① Select the item to adjust.

Select the item to adjust using the cross-shaped button (▲▼), and press the Set button (●).

② Select the setting value.

Change the setting value using the cross-shaped button (▲▼), and press the Set button (●).

The settable items and their values are as follows.

Contrast	:	-3 to +3 (Default value: +2)
Brightness	:	0 to 6 (Default value: 3)
Darkness	:	0 to 6 (Default value: 3)
Vividness	:	-5 to +5 (Default value: +3)
Sharpness	:	-3 to +3 (Default value: +2)

Memo :

- The default value is the one with the check mark beside the icon in the Scene Select setting menu.
- For items without a check mark beside the icons in the Scene Select setting menu, the setting values are fixed at “0” and cannot be changed.

2 Press the crossed-shaped button (◀) or [CANCEL] button.

- Returns to the Scene Select setting menu.
- Press the [MENU/THUMB] button to return to the normal screen.

Memo :

- When the Adjust screen is displayed, changing the [SCENE SELECT] switch to “OFF” will close the Adjust screen and return to the normal screen.

Miscellaneous Functions for Shooting and Recording Methods

This camera recorder is equipped with various functions for shooting.
The functions described here are the typical functions of the camera recorder.

Miscellaneous Functions for Shooting

- Assignment of user buttons:
  You can assign functions to the buttons and use them as user buttons.
  Functions can be assigned to the buttons according to the usability.
- AF assist:
  Allows you to set the auto focus point to the preferred area or to near and far directions.
- Focus Assist:
  The focused area is displayed in color to allow easy and accurate focusing.
- Expanded focus:
  Magnifies the preferred area to enable precise focus to be established easily.
- Zebra pattern:
  Diagonal lines (zebra pattern) are displayed only at the area with the specified luminance levels.
- Marker:
  Displays the marker and safety zone when determining the angle of view for the image according to the shooting purpose.

Recording Methods

❶ Recording using both slots A and B

- Continuous recording (Series Rec):
  Enables seamless long hour continuous recordings over the slots.
- Record simultaneously at the same definition (Dual Rec):
  Allows you to create two clips of the same content at the same time only on this camera recorder.
- Backup Rec:
  Allows you to record only the preferred scenes to one slot using the record and stop operations while the other slot is continuously recording.

❷ Special recording

* Special recording can be specified in conjunction with ❶ under given conditions.

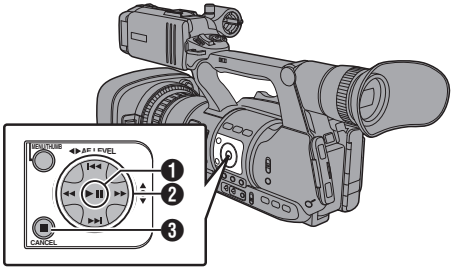
- Pre Rec:
  Enables recording to go back to the specified duration in seconds of the video and audio before the actual recording start time. This allows you to record a complete event without missing the initial scenes even if you start the recording late.
- Clip Continuous Rec:
  Allows you to consolidate several rounds of “startstop recording” into one clip. You can consolidate the clips while recording when shooting on-and-off and shooting several scenes.
- Frame Rec:
  Records as a single clip only in the specified frame rate until the recording is stopped.
  Useful for shooting clay animation.
- Interval Rec:
  Records and pauses repeatedly at the specified time interval and frame rate, and records as a single clip until the recording is stopped.
  Useful for observation recording.

❸ Other recordings

- Clip cutter trig:
  You can split the clips freely without having to stop recording during shooting.

Playing Recorded Clips

Use the operation buttons on the side control panel of the camera recorder to play back.



❶ ▶II Button
- Plays back/pauses the clip pointed by the cursor.
- You can press the cross-shaped button (◀▶) to perform frame-by-frame forward playback during pause mode.

❷ I◀◀/▶▶I Button
Skips in the reverse or forward direction.
◀◀/▶▶ Button
During Playback:
Fast forwards in the reverse or forward direction.
While paused:
Frame-by-frame playback in the reverse or forward direction.

❸ ■ Button
Stops playback.

1 **In the thumbnail screen, move the cursor to the clip to be played back.**
Move the cursor to the clip to be played back using the cross-shaped button (▲▼◀▶).

2 **Press the playback/pause button.**
Playback of the selected clip starts.

Audio Output during Playback

- You can confirm the playback sound from the monitor speaker, or the headphone connected to the [🎧] terminal. When a headphone is connected to the [🎧] terminal, sound cannot be output from the monitor speaker.
- Adjust the volume of the monitor speaker and headphone using the [MONITOR +/-] volume adjustment button on the LCD monitor section of the camera recorder.

Time Code Playback

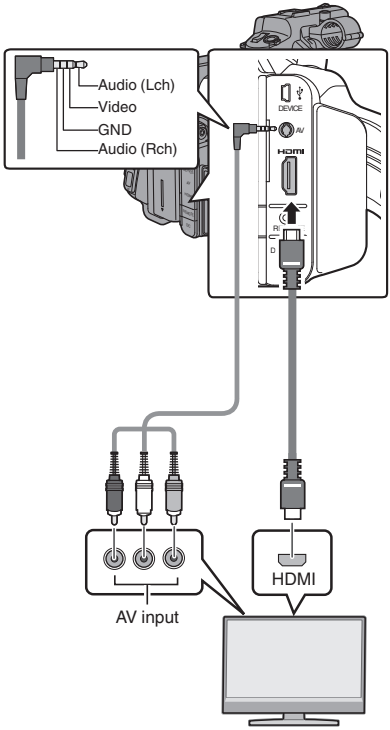
Time code or user's bit recorded on an SD card can be displayed on the LCD monitor and viewfinder.

Memo :
- The time code is also superimposed on the video signal output from the [HD/SD SDI] output terminal.
- If a section without time code is played back, the time code will stop. However, playback will continue.

Connecting External Monitor

- To output live or playback video images and audio sound to an external monitor, select the output signals from the camera recorder, and connect using an appropriate cable according to the monitor to be used.
- Choose the most suitable terminal according to the monitor in use.
- [AV] terminal:
  Outputs composite video and audio signals.
- [HDMI] terminal:
  Outputs HDMI signals.
  Configure the settings in the [A/V Set] menu to match the monitor to be connected.

Memo :
- If the [HDMI] terminal is connected, configure the settings in the [A/V Set] menu according to the monitor to be connected.



* Select the output signal in [A/V Set] ➡ [HDMI out].

* To display the menu screen or display screen on an external monitor, set [A/V Set] ➡ [Video Set]
➡ [Display On TV] to “On”.

Setting the Aspect

- For setting the mode to convert images with a 16:9 aspect ratio to display on a 4:3 aspect ratio screen.
- Set using [A/V Set] ➡ [Video Set] ➡ [SD Aspect].
- The available modes include “Side Cut”, “Letter” (blackened at the top and bottom), and “Squeeze” (full size, compressed at the left and right).

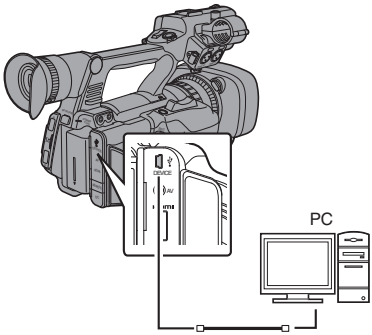
Memo :
- When [Record Format] ➡ [System] is set to “SD”, and [SD Aspect] is set to “4:3”, this item cannot be selected.

Loading Clips to the PC

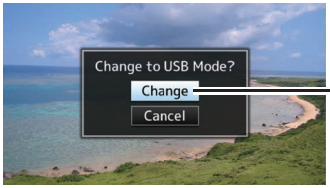
- You can load clips to a PC by connecting the camera recorder to the PC via the USB port. Doing so enables clips stored in the SD card to be managed and edited on the PC.
- Files on the SD card can be managed/edited on the connected PC in this mode only for USB mass storage class devices that are recognized by the said PC as a peripheral drive.

Memo :
- Files cannot be written to the SD card.

1 **Connect the camera recorder to the PC using a USB cable.**
A confirmation message “Change to USB Mode?” to enable the USB connection appears.



2 **Select [Change] using the cross-shaped button (▲▼), and press the Set button (●).**
The camera recorder switches to USB mode.



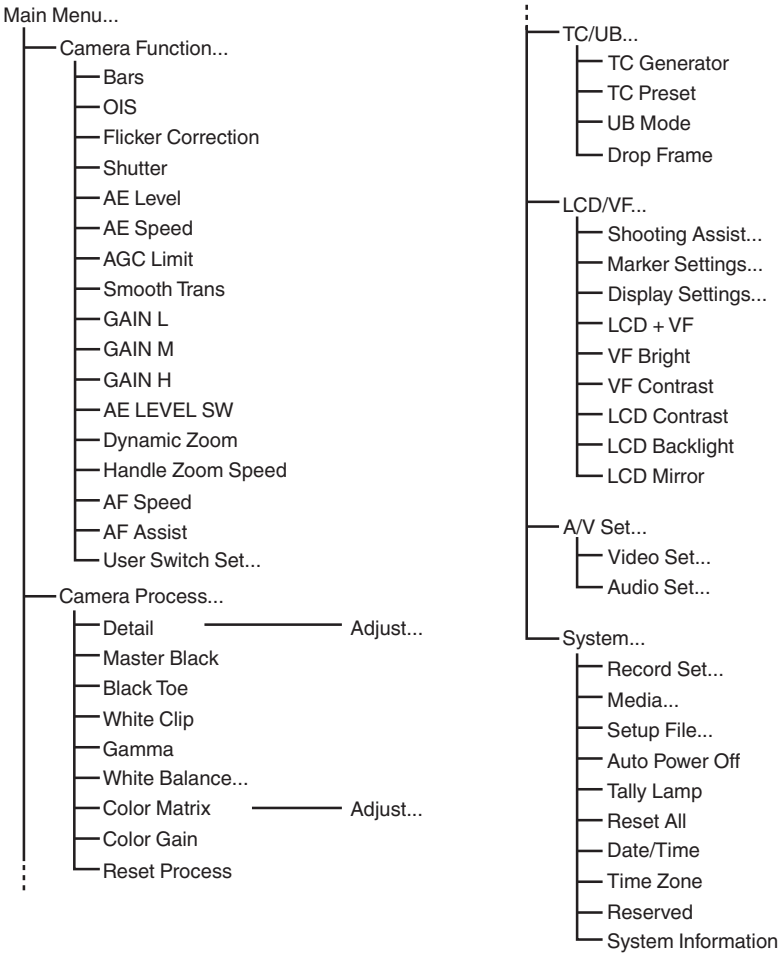
Memo :
- If recording is in progress, the “Change to USB Mode?” message appears after recording stops.
- If playback is in progress, the camera recorder switches to USB mode after the file closes automatically, such as when playback stops.

Disconnecting

- Disable the connection on the PC, then remove the USB cable from the camera recorder.
- Doing so exits the USB mode and switches the camera recorder to Camera mode.

Memo :
- The procedure for disabling the USB connection varies according to the PC in use. For details, refer to the “INSTRUCTIONS” of the PC.

Menu Screen Hierarchical Chart



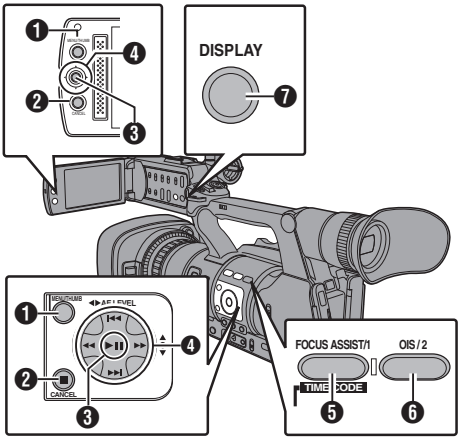
* Only menu items that can be set using this camera recorder are introduced here. For details on each item, please refer to the “Mobile User Guide”.

Basic Operations in Menu Screen

- Press the [MENU/THUMB] button on the side control panel of the camera recorder or on the LCD monitor to display the menu screen on the LCD monitor and viewfinder.
- Various settings for shooting and playback can be configured on the menu screen.
- There are two types of menu screens - [Main Menu] and [Favorites Menu].
- [Main Menu] contains all the setting items of the camera recorder, classified according to functions and uses, while [Favorites Menu] allows users to customize the menu items freely.
- The operating procedures and main screen displays are the same for both menus.
- The menu screen can also be displayed on external monitors connected to the video signal output terminal.

Operation Buttons

Use the operation buttons on the side control panel of the camera recorder or the buttons on the LCD monitor to operate the menu.



❶ [MENU/THUMB] Button
- Displays the menu screen. The [Main Menu] screen is displayed by default.
- During normal usage, [Main Menu] is displayed if the previous menu operation ended at [Main Menu], and [Favorites Menu] if the previous menu operation ended at [Favorites Menu].
- Press this button to close the menu screen during menu display and return to the normal screen.
- Pressing and holding down the button while the menu is displayed switches the [Main Menu] screen to the [Favorites Menu] or vice versa.

❷ [CANCEL] Button
Cancels settings and returns to the previous screen.

❸ Set Button (●)
Sets the values and items.

❹ Cross-shaped Button (▲▼◀▶)
▲ : Moves the cursor upward.
▼ : Moves the cursor downward.
◀ : Moves back to the previous item.
▶ : Moves forward to the next item.

❺ [FOCUS ASSIST/1] Button
Adds the selected menu or submenu item to the [Favorites Menu].

❻ [OIS/2] Button
Resets settings in the [TC Preset] or [UB Preset] setting screen. This button is disabled in other screens.

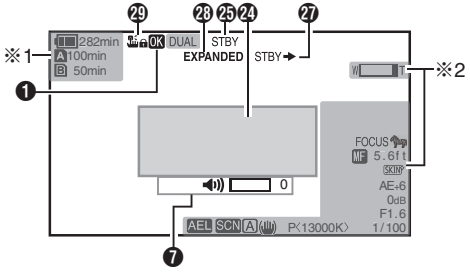
❼ [DISPLAY] Button
Switches between the [Main Menu] and [Favorites Menu] screens.

Display Screen

Display Screen in Camera Mode

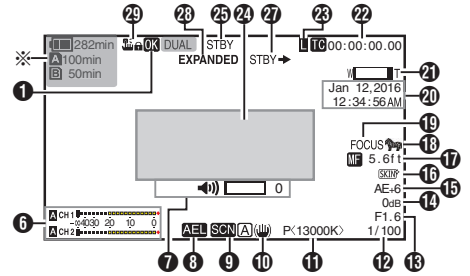
Display 0 screen

This screen displays the event. It is also used to display warnings only.



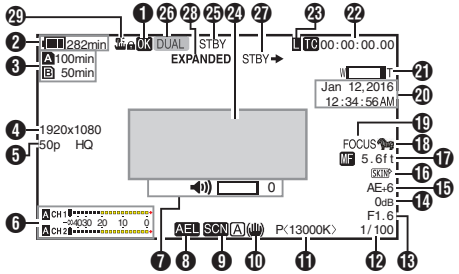
*1 Appears only during warnings
*2 Appears only during operation

Display 1 screen



* Appears only during warnings

Display 2 screen



❶ OK Mark
Displayed when OK mark has been appended.

❷ Voltage/Battery Power
Displays the current status of the power supply in use.

Memo :
- Displayed in the Display 0 and Display 1 screens during warnings only.

❸ Remaining Space on Media
Displays the remaining recording time of the SD cards in slot A and slot B separately.

A : Currently selected slot. (White card)
A : Write-protect switch of SD card is set.
A!INVALID : SD card cannot be read or written to, or restored.
A!FORMAT : SD card requires formatting.
A!RESTORE : SD card requires restoring.
A!INCORRECT :
- When Record Set is set to other than “AVCHD”/“SD” with a Class 4 SD card inserted.
- When the SD card is not supported.
- When an SD card lower than Class 10 is inserted while in the XHQ mode.

A!REC INH :
- When attempting to record in 50i(HQ)/50i(SP) to an SD card recorded in AVCHD60i(HQ)/60i(SP) (or vice versa).
- When an SDHC card is inserted while [4GB File Spanning(SDXC)] is set to “Off”.

Memo :
- This item is not displayed when [Main Menu] ➡ [LCD/VF] ➡ [Display Settings] ➡ [Media Remain] is set to “Off”. However, warnings will be displayed.
- Displayed on the Display 0 and Display 1 screens only in the case of warnings. (When the remaining time is shorter than 3 minutes)
The icons appear on all display screens in the following cases.
  - When recording is performed to only one of the slots while [Main Menu] ➡ [System] ➡ [Record Set] ➡ [Slot Mode] is set to “Dual”.
- The displayed time is an estimate.

❹ Resolution
Displays the video image resolution.

Memo :
- This item is not displayed when [Main Menu] ➡ [LCD/VF] ➡ [Display Settings] ➡ [Record Format] is set to “Off”.

❺ Frame Rate/Bit Rate
Displays the frame rate and bit rate in pairs.

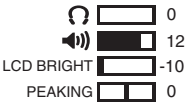
Memo :
- This item is not displayed when [Main Menu] ➡ [LCD/VF] ➡ [Display Settings] ➡ [Record Format] is set to “Off”.

❻ Audio Level Meter
- Displays the audio levels of CH1 and CH2.
- A appears on the screen when in the Auto mode.

- When [Main Menu] ➡ [System] ➡ [Record Set] ➡ [Rec Mode] is set to “Frame Rec” or “Interval Rec”, audio cannot be recorded and is indicated by the ⃠ mark.

Memo :
- This item is not displayed when [Main Menu] ➡ [LCD/VF] ➡ [Display Settings] ➡ [Audio Meter] is set to “Off”.

❼ Volume Operation Indicator
Displayed when there are changes made to the volume of the headphone, speaker (0 to 15), and the values of LCD BRIGHT, PEAKING (-10 to +10).



Memo :
- There is no audio output from the speaker in Camera mode.

❽ AE Lock
The AEL icon is displayed during AE lock.

❾ Scene Select/Full Auto
- When the [SCENE SELECT] switch is set to “A” or “B”, this item appears as “SCN A” or “SCN B”.
- If the [SCENE SELECT] switch is set to “OFF” and the [FULL AUTO ON/OFF] switch is set to “ON”, the A icon appears.

❿ Image Stabilizer Mark
Displayed when the image stabilizer is ON.

: When [Level] of [OIS] is set to “Normal”.

: When [Level] of [OIS] is set to “High”.

Memo :
- If image stabilizer is set to “OFF” when the Display 0 screen is displayed, appears for 3 seconds.
- Displayed in the Display 0 screen only when there is a change.

⓫ White Balance Mode
Displays the current white balance mode. (*****K indicates color temperature)

A<*****K> : When the white balance is set to Auto A.
B<*****K> : When the white balance is set to Auto B.
P<*****K> : When the white balance is set to Preset.
<WBL> : Locked in the Full Auto White Balance mode.

Memo :
- Displayed in the Display 0 screen only when there is a change.

⓬ Shutter
- The current shutter speed is displayed when the shutter is set to “Manual”.
- The shutter speed display disappears when the [FULL AUTO ON/OFF] switch is set to “ON” to enable the Full Auto shooting mode, or when the [SHUTTER] button is pressed to enable the Automatic Shutter mode.

Memo :
- The variable range of the shutter speed varies according to the video format settings.
- “OFF” is displayed when in the low-light shooting mode.
- Displayed in the Display 0 screen only when there is a change.

⓭ Iris F-Number
Displays F-number of the lens iris.

⓮ Gain
- Displays the gain value when in the Manual Gain mode.
- “LUX30” is displayed when in the low-light shooting mode.

Memo :
- Displayed in the Display 0 screen only when there is a change.

⓯ AE Level
- Displayed when the AE function is activated.
- When operated while manual operation is disabled, “AE” blinks for about 5 seconds.
- When face detection is enabled and [Face Detect] is set to “AF&AE”, appears on the left side of “AE”.

⓰ Beautiful Skin
SKIN appears when Beautiful Skin is in operation.

Memo :
- If [Beautiful Skin] is turned off while the Display 0 screen is displayed, SKIN appears for 3 seconds.
- Displayed in the Display 0 screen only when there is a change.

⓱ Focus Display
- Displays the approximate distance to the subject in focus during manual focus.
- When face detection is enabled, appears on the left side of AF.
- If [Main Menu] ➡ [Camera Function] ➡ [AF Assist] is set to “Area”, the icon appears on the left side of AF.
- AFL appears on the screen while auto focus is locked.

Memo :
- You can specify the display method (Feet/Meter) in [Main Menu] ➡ [LCD/VF] ➡ [Display Settings] ➡ [Focus].
  This item will not be displayed when “Off” is selected.
- Displayed in the Display 0 screen only when there is a change.

⓲ Zebra pattern
During zebra pattern display, (zebra icon) is displayed on the display screen in Camera mode.

⓳ Focus Assist
- “FOCUS” is displayed when auto focus is activated.

Memo :
- Displayed in the Display 0 screen only when there is a change.

⓴ Date/Time Display
Displays the current date and time.

Memo :
- The date/time display style can be specified in [Main Menu] ➡ [LCD/VF] ➡ [Display Settings] ➡ [Date Style]/[Time Style].
- This item is not displayed when [Main Menu] ➡ [LCD/VF] ➡ [Display Settings] ➡ [Date/Time] is set to “Off”.
- When [Main Menu] ➡ [System] ➡ [Record Set] ➡ [Time Stamp] is set to “On”, this item is not displayed.

㉑ Zoom Display
- Displays the zoom position. (Zoom bar or value)

  Dynamic Zoom Off:
  W T

  Dynamic Zoom On:
  W T
- The zoom bar will only be displayed for 3 seconds after the zoom operation is activated.
- The value will always be displayed.
  - If [Main Menu] ➡ [Camera Function] ➡ [OIS] ➡ [OIS] is set to “Off”, or [Level] is set to “Normal”:

  Dynamic Zoom Off : Z00 to 99
  Dynamic Zoom On : Z00 to 149
  - If [Main Menu] ➡ [Camera Function] ➡ [OIS] ➡ [Level] is set to “High”:

  Dynamic Zoom Off : Z09 to 99
  Dynamic Zoom On : Z09 to 149

Memo :

- You can specify the display method (Number/Bar) in [LCD/VF] ➡ [Display Settings] ➡ “Zoom”. This item will not be displayed when “Off” is selected.
- Displayed in the Display 0 screen only when there is a change.

㉒ Time Code (TC)/User’s Bit (UB) Display

- Displays the time code (hour: minute: second: frame) or user’s bit data recorded in the SD card being played back.
- Example of time code display:

TC00:00:00:00
※

* Colon (:) denotes non-drop frames and dot (.) denotes drop frames.

- Example of user’s bit display:

UBFF EE DD 20

Memo :

- You can specify whether to display the time code, user’s bit, or turn off the display in [LCD/VF] ➡ [Display Settings] ➡ [TC/UB]. This item will not be displayed when “Off” is selected.

㉓ Time Code Lock Indicator
When the built-in time code generator is synchronized to the external time code data input during the synchronization of time code with another camera recorder, L lights up.

㉔ Event/Warning Display Area
Displays error messages.

㉕ Media Status

----	:	No card found in the selected slot
STBY	:	Recording standby
●REC	:	Recording
REVIEW	:	Clip Review
STBY P	:	Pre Rec recording standby
●REC P	:	Pre Rec recording
STBY C	:	Clip Continuous Rec recording standby
●REC C	:	Clip Continuous Rec recording
STBY C (displayed in yellow)	:	Clip Continuous Rec recording pause
STBY I	:	Interval Rec recording standby
STBY I (displayed in red)	:	Interval recording pause
●REC I	:	Interval Rec recording
STBY F	:	Frame Rec recording standby
●REC F	:	Frame Rec recording
STBY F (displayed in yellow)	:	Frame Rec recording pause
STOP	:	Unable to record to the card in the slot
P.OFF	:	Power OFF

㉖ Dual Rec/Backup Rec Display
“DUAL” is displayed in the Dual Rec mode and “BACKUP” is displayed in the Backup Rec mode.

Memo :

- This item is not displayed when [Slot Mode] is set to “Series”.
- This item is not displayed when [Main Menu] ➡ [LCD/VF] ➡ [Display Settings] ➡ [Media Remain] is set to “Off”. However, warnings will be displayed.
- Displayed in the Display 0 and Display 1 screens during warnings only. (When the remaining time is shorter than 3 minutes)

㉗ Record Trigger

STBY ➡	:	When [Rec Trigger] is set to “On” and recording is stopped
REC ➡	:	When [Rec Trigger] is set to “On” and recording is in progress

㉘ Expanded focus
“EXPANDED” (yellow) is displayed during expanded focus.

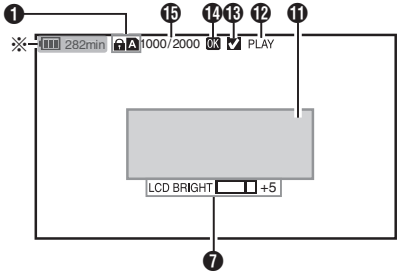
㉙ Operation lock
The icon appears during operation lock.

Others

Display Screen in Media Mode

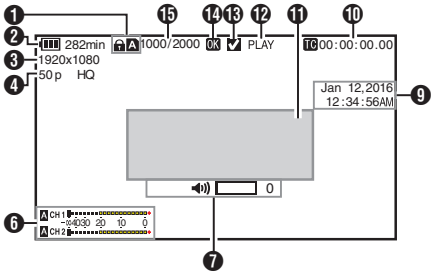
Media Display 0 Screen

This screen displays the media status or event. It is also used to display warnings only.

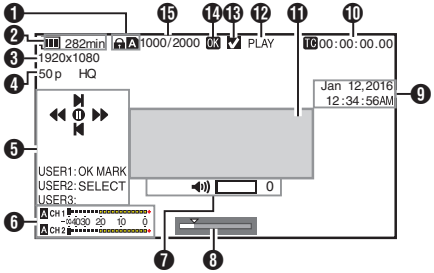


* Appears only during warnings

Media Display 1 Screen



Media Display 2 Screen



❶ Media
- Displays the media slot (A or B) of the currently played clip.
- 🔒 appears when the write-protect switch of the SD card is set.

❷ Voltage/Battery Power
Displays the current status of the power supply in use.

Memo :
- Displayed in the Media Display 0 screen during warnings only.

❸ Resolution
Displays the video image resolution.

❹ Frame Rate/Bit Rate
Displays the frame rate and bit rate in pairs.

❺ Operation Guide
Displays a guide for the current operation buttons.

❻ Audio Level Meter
Displays the audio levels of CH1 and CH2.

Memo :
- This item is not displayed when [Main Menu] ➡ [LCD/VF] ➡ [Display Settings] ➡ [Audio Meter] is set to “Off”.

❼ Volume Operation Indicator
Displayed when there are changes made to the volume of the headphone, speaker (0 to 15), and the value of LCD BRIGHT (-10 to +10).

❽ Position bar
Displays the current position in the video. During trimming, the position bar appears in green, and icons for the in and out points are displayed.
- ▼ : Current position of the video
- ◢ : Position to start trimming (In point)
- ◣ : Position to end trimming (Out point)

❾ Date/Time Display
Displays the date/time that is recorded on the currently played SD card.

Memo :
- The date/time display style can be specified in [LCD/VF] ➡ [Display Settings] ➡ [Date Style]/ [Time Style].

⓾ Time Code (TC)/User's Bit (UB) Display
- Displays the time code (hour: minute: second: frame) or user's bit data recorded in the SD card being played back.
- Example of time code display:

TC00:00:00:00
※

* Colon (:) denotes non-drop frames and dot (.) denotes drop frames.

- Example of user's bit display:

UBFF EE DD 20

Memo :
- You can specify whether to display the time code, user's bit, or turn off the display in [TC/UB] of [Main Menu] ➡ [LCD/VF] ➡ [Display Settings].

⓫ Event/Warning Display Area
Displays error messages.

⓬ Media Status

PLAY	:	Playing
STILL	:	Still picture playback mode
FWD *	:	High-speed playback in the forward direction (* playback speed: 5x, 15x, 60x, or 360x)
REV *	:	High-speed playback in the reverse direction (* reverse playback speed: 5x, 15x, 60x, or 360x)
STOP	:	Stop mode
P.OFF	:	Power OFF

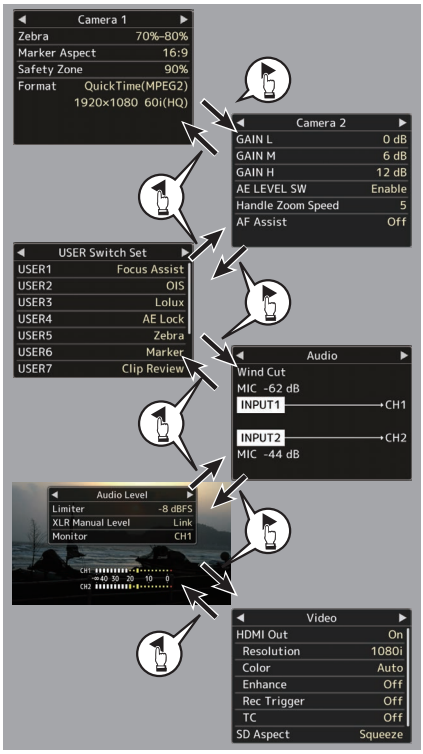
⓭ Check Mark
Displayed when the currently played clip is selected.

⓮ OK Mark
Displayed when OK mark has been appended.

⓯ Clip Information
Displays current clip number/total number of clips.

Status Screen

- This screen allows you to check the current settings.
- To display the status screen, press the [STATUS] button in the normal screen.
- The status display differs according to the operation mode (two types).
- Press the [STATUS] button to switch to the display screen.
- Press the [MENU/THUMB] button at each status screen (other than the [Camera 1]/[Camera 2] screen) to enter the setting screen.
- Use the cross-shaped button (◀▶) to switch screens as follows:



* These are screen examples. The contents displayed are different depending on the settings.

Troubleshooting

Symptom	Action
Power does not turn on.	• Is the AC adapter properly connected? • Is the battery charged? • Is the power turned on immediately after it is turned off? Make sure to wait for an interval of at least 5 seconds before turning on the power again.
Unable to start recording.	• Is the record trigger button/lock switch on the handle turned on? • Is the write-protect switch of the SD card turned on? Make sure that the write-protect switch is turned off. • Is the camera recorder set to the Camera mode? Use the [MODE] selection button to switch to the Camera mode. • Is the SD card inserted compatible with the recording format?
Camera image is not output on the LCD monitor and viewfinder screen.	• Is the camera recorder set to the Camera mode? Use the [MODE] selection button to switch to the Camera mode.
Playback does not start after selecting a clip thumbnail and pressing the Set button (●).	• Is the selected clip a playable clip? Playback is not possible if the clip has a different video format setting.
Images on the LCD monitor and viewfinder screen appear dark or blurred.	• Readjust the brightness of the LCD monitor and viewfinder. • Is the iris closed? • Is the shutter speed setting too high? • Is the amount of peaking too little? Use the [PEAKING +/-] button to adjust the contour for the LCD monitor and the viewfinder screen.
The [CH1/CH2] recording level adjustment knob does not work.	• Is the [CH1/CH2 AUTO/MANUAL] switch set to “AUTO”? • Is the [FULL AUTO ON/OFF] switch set to “ON”? Is the [FULL AUTO ON/OFF] switch set to “ON”, and [A/V Set] ➡ [Audio Set] ➡ [Audio On FULL AUTO] set to “Auto”?
SD card cannot be initialized (formatted).	• Is the write-protect switch of the SD card turned on? Make sure that the write-protect switch is turned off.
Battery alarm appears even after loading a charged battery.	• Is the battery too old?
The time code and user’s bit are not displayed.	• Even in Camera mode or Media mode, the time code and user’s bit may not be displayed depending to the type of display. • Is [LCD/VF] ➡ [Display Settings] ➡ [TC/UB] set to “Off”? To display the time code or user’s bit, set it to “TC” or “UB”.
The date and time are not displayed.	• The date and time are only displayed on the Display 1 and Display 2 screens in the Camera mode (during shooting). • Is [System] ➡ [Record Set] ➡ [Time Stamp] set to “On”? To display the date and time, set it to “Off”.
Incorrect display on the viewfinder.	• Is the LCD monitor used with [LCD/VF] ➡ [LCD + VF] set to “Off”?
The actual recording time is shorter than the estimated time.	• The recordable time may be shorter depending on the shooting conditions or the subject.
The two camera recorders are not synchronized even though the time codes have been synchronized. (L on the Slave device is not displayed.)	• Is the [TC IN/OUT] switch correctly set? • Set [System] ➡ [Record Set] ➡ [Record Format] ➡ [Frame & Bit Rate] such that the two camera recorders have the same frame rate.

Precautions for Proper Use

Storage and Usage Locations

- Allowable ambient temperature and humidity
  Be sure to use this unit within the allowable temperature range of 0 °C to 40 °C and a relative humidity of 30 % to 80 %. Using this unit at a temperature or humidity outside the allowable ranges could result not only in malfunction but also serious impact on the CMOS elements as small white spots may be generated. Please exercise care during use.
- Strong electromagnetic waves or magnetism
  Noise may appear in the picture or audio and/or the colors may be incorrect if this unit is used near a radio or television transmitting antenna, in places where strong magnetic fields are generated by transformers, motors, etc., or near devices emitting radio waves, such as transceivers or cellular phones.
- Use of wireless microphone near this unit
  When a wireless microphone or wireless microphone tuner is used near this unit during recording, the tuner could pick up noise.
- Avoid using or placing this unit in the following places.
  - Places subject to extreme heat or cold
  - Places with excessive dirt or dust
  - Places with high humidity or moisture
  - Places subject to smoke or vapor such as near a cooking stove
  - Places subject to strong vibrations or unstable surfaces
  - In a parked car under direct sunlight or near a heater for long hours
- Do not place this unit at places that are subject to radiation or X-rays, or where corrosive gases occur.
- Protect this unit from being splashed with water. (Especially when shooting in the rain)
- Protect this unit from getting wet when shooting on a beach. In addition, salt and sand may adhere to the body. Be sure to clean the unit after use.
- Protect this unit against penetration of dust when using it in a place subject to sandy dust.

Transportation

- Do not drop or hit this unit against a hard object when transporting.

Power Saving

- When this unit is not in use, be sure to set the [POWER ON/OFF] switch to “OFF” in order to reduce power consumption.

Maintenance

- Turn off the power before performing any maintenance.
- Wipe the external cabinet of the unit with a soft cloth. Do not wipe the body with benzene or thinner. Doing so may cause the surface to melt or turn cloudy. When it is extremely dirty, soak the cloth in a solution of neutral detergent, wipe the body with it, and then use a clean cloth to remove the detergent.

Rechargeable Battery (sold separately)

- Be sure to use only the specified batteries. We do not guarantee the safety and performance of this device if an unspecified battery is used.
- For details, refer to the “INSTRUCTIONS” of the battery.

LCD Monitor and Viewfinder

- The LCD monitor and viewfinder screen are manufactured using high-precision technology. Black spots may appear on the LCD monitor and viewfinder screen, or red, blue, and/or white spots may not disappear. However, this is not a malfunction and these spots are not recorded on the SD card.
- If you use this unit continuously for a long period of time, the characters displayed in the viewfinder may temporarily remain on the screen. This is not recorded on the SD card. They will not appear after you turn the power off and then on again.
- If you use this unit in a cold place, the images may appear to lag on the screen, but this is not a malfunction. Retained images are not recorded on the SD card.
- Do not press against the surface with force or subject it to strong impact. Doing so may damage or break the screens.
- Noise may appear in the viewfinder when switching between the live video and playback images.
- Due to the characteristic of the viewfinder display device, colors may appear on the images when you blink your eyes. It does not affect the recorded images or HDMI output.

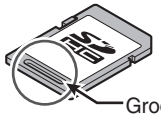
SDHC/SDXC Cards

- SDHC/SDXC card is referred to as SD card in this manual.
- This camera recorder saves the recorded images and audio sound on the SD card (sold separately) in the card slot.
- If the SD card contains files recorded by devices other than this camera recorder or files that are saved from a PC, the recordable time may be shorter or data may not be properly recorded. In addition, the remaining space on the card may not increase even when files are deleted using a PC.
- For details on the combinations of usable SD card and format setting, refer to the following.

* Using cards other than those from Panasonic, TOSHIBA or SanDisk may result in recording failure or data loss.

Handling of SD Cards

- The status indicator lights up in red when data on the SD card is being accessed.
  Do not remove the SD card during data access (such as recording, playback, or formatting). Do not turn off the power or remove the battery and AC adapter during access either.
- Do not use or store the SD card in a place that is subject to static electricity or electrical noise.
- Do not place the SD card near locations that are exposed to strong magnetic fields or radio waves.
- Inserting the SD card incorrectly may result in damage of this unit or the SD card.
- We are not liable for any accidental loss of data stored on the SD card. Please back up any important data.
- Make use of the SD card within the prescribed conditions of use.
  Do not use it at the following locations.
  Places that are subject to direct sunlight, high humidity or corrosion, places near thermal equipment, sandy or dusty places, or in a car under the sun with the doors and windows closed.
- Do not bend or drop the SD card, or subject it to strong impact or vibration.
- Do not splash the SD card with water.
- Do not dismantle or modify the SD card.
- Do not touch the terminals with your hands or with a metal object.
- Do not allow dust, dirt, water, or foreign objects to adhere to the terminals.
- Do not remove the labels or stick other labels or stickers on the SD cards.
- Do not use pencils or ballpoint pens to write on the SD cards. Always use oil-based pens.
- If you format (initialize) the SD card, all data recorded on the card, including video data and setup files, will be deleted.
- You are recommended to use cards that are formatted (initialized) on this camera recorder.
  - The SD card may be damaged if the camera recorder is not operated correctly. Formatting (Initializing) the SD card may allow it to operate correctly.
  - SD cards that have been formatted (initialized) on other cameras, computers or peripheral equipment may not operate correctly. In this case, format (initialize) the SD card on this camera recorder.
- If you want to wipe out all information by completely erasing the data, we recommend either using commercially available software that is specially designed for that purpose, or by physically destroying the SD card with a hammer, etc. When formatting or erasing data using the camera recorder, only the file administration information is changed. The data is not completely erased from the SD card.
- Some commercially available SD cards may be harder to be removed from this unit. Remove them by hooking onto the groove on the cards.
  - It will be easier to remove the cards after several times.
  - Do not stick any stickers on the cards.



- The SD card may pop out when it is being removed. Be careful not to lose the card.

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■ Any recordings made on this camera recorder that are played back for profit or public preview may infringe on the rights of the owner of the recordings.
Do not use the recordings for purpose other than personal enjoyment without prior consent from the owner.

Others

■ Do not insert objects other than the memory card into the card slot.
■ Do not block the vent on the unit.
Blocking of the vent causes internal heating and may lead to burns and fires.
■ Do not put anything into the camera unit.
Metal and flammable items entering from the vent and connectors can result in fire or electric shock.
■ Do not turn off the [POWER ON/OFF] switch or remove the power cable during recording or playback.
■ The camera recorder may not show stable pictures for a few seconds immediately after the power is turned on, but this is not a malfunction.
■ When the video signal output terminals are not in use, put on the covers to prevent damage to the terminals.
■ Do not drop this unit or subject it to strong impact or vibration as it is a precision equipment.
■ Optical performance of lens
Due to the optical performance of the lens, color divergence phenomena (magnification chromatic aberration) may occur at the periphery of the image. This is not a camera malfunction.
■ Noise may appear in the image when switching modes.
■ If placed on its side, heat release efficiency will deteriorate.
■ Use the supplied AC adapter as the power supply. Do not use the supplied AC adapter on other devices.
■ When the connectors that come with connector covers are not in use, put on the covers to prevent damage to the connectors.
■ This camera recorder makes use of fonts by Fontworks Inc.
■ This camera recorder makes use of M+FONTS.

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Specifications

General

Item	Description
Power	DC 12 V
Power consumption	Approx. 6 W (When recording in the factory default settings using the viewfinder.)
Mass	Approx. 1.7 kg (When battery is not installed)
Allowable operating temperature	0 °C to 40 °C
Allowable operating humidity	30 %RH to 80 %RH
Allowable storage temperature	-20 °C to 50 °C
Dimensions (W × H × D)	177.5 mm × 197 mm × 416 mm

Terminal Section

Item		Description
[HDMI] output terminal (Type A)		V1.4-compliant
[INPUT1/INPUT2] terminal		
	[MIC]	-50 dBu, 3 kΩ, XLR (balanced), +48 V output (phantom power supply)
	[LINE]	+4 dBu, 10 kΩ, XLR (balanced)
[AUX] terminal		-22 dBu, 10 kΩ, 3.5 mm stereo mini jack (unbalanced)
[AV] terminal		Φ3.5 mm 4-pin mini jack
	Video signal	1.0 V (p-p)
	Audio signal	-8 dBu (during reference level input), 1 kΩ (unbalanced)
[🎧] terminal		Φ3.5 mm mini jack (stereo)
[REMOTE] terminal		Φ2.5 mm mini jack (stereo)
[USB] terminal		
	[DEVICE]	Mini USB-B type, USB 2.0, slave function (mass storage class) only
[TC] terminal		
	[IN]	1.0 V (p-p) to 4.0 V (p-p) high impedance
	[OUT]	2.0 ± 1.0 V (p-p) low impedance
[DC] terminal		DC jack (for the supplied AC adapter)

Lens Section

Item	Description
Lens	F1.2, f=3.76 mm to 37.6 mm (Conversion to 35 mm camera format: f = 29.9 mm to 586 mm: dynamic zoom)
Filter diameter	Φ46 mm

Camera Section

Item	Description
Image pickup device	1/2.3-inch Progressive CMOS
Gain	0dB, 3dB, 6dB, 9dB, 12dB, 15dB, 18dB, 21dB, 24dB, Lolux, AGC
Electronic shutter	1/6.25 to 1/10000, EEI
LCD monitor	3.5-inch LCD, 16:9, 920K pixels
Viewfinder	0.24-inch LCOS, 16:9, 1.56M pixels

Storage Section

Item	Description
Supported media	SDHC/SDXC
Slots	x 2

Video/Audio

Item	Description
Recording time	Approx. 25 minutes (8 GB SD card, 35 Mbps, VBR mode)
HD mode (MOV/MP4: MPEG-2)	
Video recording file format	QuickTime File Format (For Final Cut Pro)/MP4 File Format
Video	
HQ mode	MPEG-2 Long GOP VBR, 35 Mbps (Max) MP@HL, 1920x1080/59.94i, 50i 1440x1080/59.94i, 50i 1280x720/59.94p, 50p
SP mode	MPEG-2 Long GOP CBR 25 Mbps MP@H14 1440x1080/59.94i, 50i
Audio	LPCM 2ch, 48 kHz/16 Bit
HD mode (AVCHD)	
Recording file format	AVCHD File Format
Video	MPEG-4 AVC/H.264
Audio	Dolby Digital 2ch, 48 kHz/16 Bit, 256 kbps
HQ Mode (Progressive)	1920x1080/59.94p, 50p 28 Mbps (Max)
HQ mode	1920x1080/59.94i, 50i 24 Mbps (Max)
SP mode	1920x1080/59.94i, 50i 18 Mbps (Max)
LP mode	1440x1080/59.94i, 50i 9 Mbps
EP mode	1440x1080/59.94i, 50i 5 Mbps
HD mode (MOV: H.264)	
Video recording file format	QuickTime File Format
Video	
XHQ Mode	MPEG-4 AVC/H.264, 50 Mbps (Max) 1920x1080/59.94p, 59.94i, 50p, 50i
UHQ Mode	MPEG-4 AVC/H.264, 35 Mbps (Max) 1920x1080/59.94i, 50i
Audio	LPCM 2ch, 48 kHz/16 Bit

Item	Description
SD mode (MOV: H.264)	
Video recording file format	QuickTime File Format
Video	MPEG-4 AVC/H.264, 8 Mbps 720x576/50i
Audio	LPCM 2ch, 48 kHz/16 Bit

* The specifications and appearance of this product are subject to changes for further improvement without prior notice.

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① Turn on the power.
② Press the [MENU/THUMB] button.
③ Select [Main Menu] ➡ [System] ➡ [System Information] ➡ [Open Source License].

JY-HM360AG
HD MEMORY CARD CAMERA RECORDER

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